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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/455,851

12/07/1999

DAVID ALLEN SLUZEWSKI

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06/03/2004

MERCHANT & GOULD PC

P.O. BOX 2903

MINNEAPOLIS, MN 55402-0903

EXAMINER

RENNER, CRAIG A

ART UNIT

PAPER NUMBER

2652

21

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/455,851

Applicant(s)

SLUZEWSKI ET AL.

Examiner

Craig A. Renner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,8-11,15-18 and 28-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,15 and 28-33 is/are rejected.
- 7) ☒ Claim(s) 8-11 and 16-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 15 March 2004. These drawings are accepted.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. In line 2 of claim 2, "MR" should be changed to --magnetic recording (MR)-- in order to define the first use of this abbreviated term in this set of claims as done in the other sets of claims.
 - b. In lines 4 and 5 of claim 2 and line 3 of claim 8, each instance of "the back" should be changed to --the back side-- in order to more clearly refer back to that set forth in line 2 of independent claim 2.
 - c. In lines 2-3 of claim 15, "opposing front and back side" should be changed to --opposing front and back sides-- for better clarity.
 - d. In lines 9 and 10 of claim 15 and line 2 of claim 17, each instance of "the back" should be changed to --the back side-- in order to more clearly refer back to that set forth in line 3 of independent claim 15.
 - e. In line 2 of claim 16, "at least one bond" should be changed to --at least one bond pad-- in order to more clearly set forth an antecedent for that referenced in lines 3 and 5-6 of claim 16, for instance.

f. In line 3 of claim 28, "opposing front and back side" should be changed to --opposing front and back sides-- for better clarity.

g. In lines 9 and 10 of claim 28, each instance of "the back" should be changed to --the back side-- in order to more clearly refer back to that set forth in line 3 of claim 28.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2-3 and 28-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Zarouri et al. (US 5,771,138).

With respect to claims 2-3, Zarouri teaches a slider scale package assembly (FIGS. 1E and 1F, for instance) comprising a slider/MR head (2) having opposing front and back sides, the front side defining an air bearing surface (as shown in FIG. 1F, for instance); at least one interconnect pad (9) disposed at the back side of the slider/MR

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head (as shown in FIG. 1F, for instance); and a flex circuit (8) attached to the back side of the slider/MR head (as shown in FIG. 1E, for instance) in contact with the at least one interconnect pad (as shown in FIG. 1F, for instance) which turns the slider/MR head into the slider scale package assembly [as per claim 2]; wherein the slider/MR head further includes a front end and at least one bond pad (7) disposed thereon (as shown in FIG. 1E, for instance), and the flex circuit further includes a conductive material (lines 5-7 in column 5, for instance) that extends between the at least one interconnect pad and the at least one bond pad (as shown in FIGS. 1E and 1F, for instance), the at least one interconnect pad and the at least one bond pad are electrically connected to the conductive material of the flex circuit (lines 5-7 in column 5, for instance) [as per claim 3].

With respect to claims 28-33, Zarouri teaches a head gimbal assembly (FIGS. 1E and 1F, for instance) for supporting a slider/magnetic recording head (2) including opposing front and back sides, the front side defining an air bearing surface (as shown in FIG. 1F, for instance), the head gimbal assembly comprising suspension means (includes 4, for instance, in at least an equivalent structural sense) for supporting the slider/magnetic recording head; a head interconnect circuit (1) secured to the suspension means and including a conductive material; and a slider scale package including the slider/magnetic recording head, a plurality of interconnect pads (each 9) disposed at the back side of the slider/magnetic recording head (as shown in FIG. 1F, for instance), and a flex circuit (8) attached to the back side of the slider/magnetic recording head (as shown in FIG. 1E, for instance) and electrically connected to the

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plurality of interconnect pads (as shown in FIG. 1F, for instance), wherein the plurality of interconnect pads are electrically connected to the conductive material of the head interconnect circuit (as shown in FIG. 1F, for instance) [as per claim 28]; wherein the flex circuit includes a first end, a second end, and a conductive material extending from the first end to the second end (as shown in FIGS. 1E and 1F, for instance) [as per claim 29]; wherein the plurality of interconnect pads are located at the first end of the flex circuit, the slider/magnetic recording head includes a front end (as shown in FIG. 1E, for instance) and a plurality of bond pads (each 7) disposed at the front end (as shown in FIG. 1E, for instance), and the conductive material of the flex circuit is electrically connected to the interconnect pads at the first end and to the plurality of bond pads of the slider/magnetic recording head at the second end (as shown in FIGS. 1E and 1F, for instance) [as per claim 30]; wherein the flex circuit includes first, second, third, and fourth interconnect pads (each 9, as shown in FIG. 1F, for instance) [as per claim 31]; wherein the slider/magnetic recording head includes first, second, third, and fourth bond pads (each 7, as shown in FIG. 1E, for instance) [as per claim 32]; and wherein the flex circuit includes first, second, third, and fourth interconnect pads (each 9, as shown in FIG. 1E, for instance) and the slider/magnetic recording head includes first, second, third, and fourth bond pads (each 7, as shown in FIG. 1E, for instance), and the first, second, third and fourth interconnect pads of the flex circuit are electrically connected to the first, second, third and fourth bond pads of the slider/magnetic recording head, respectively, by the conductive material of the flex circuit (as shown in FIG. 1E, for instance) [as per claim 33].

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5. Claims 15 and 28-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson et al. (US 5,768,062).

With respect to claim 15, Anderson teaches a head gimbal assembly (FIG. 8, for instance) for supporting a slider/magnetic recording head (5c) including opposing front and back sides (as shown in FIG. 7, for instance), the front side defining an air bearing surface (as shown in FIG. 7, for instance), the head gimbal assembly comprising a suspension (5a) supporting the slider/magnetic recording head; a head interconnect circuit (includes 5e) being attached to and disposed along the suspension, the head interconnect circuit including a conductive material (5e); and a slider scale package comprising the slider/magnetic recording head, a flex circuit (5b) attached to the back side of the slider/magnetic recording head (as shown in FIG. 5, for instance), and at least one interconnect pad (at least one of 5c24 and 5c25, for instance) disposed on the back side of the slider/magnetic recording head (as shown in FIGS. 6-7, for instance) and providing electrical contact with the conductive material of the head interconnect circuit (i.e., via flex circuit 5b, for instance).

With respect to claims 28-29, Anderson teaches a head gimbal assembly (FIG. 8, for instance) for supporting a slider/magnetic recording head (5c) including opposing front and back sides (as shown in FIG. 7, for instance), the front side defining an air bearing surface (as shown in FIG. 7, for instance), the head gimbal assembly comprising suspension means (includes 5a, for instance, in at least an equivalent structural sense) for supporting the slider/magnetic recording head; a head interconnect circuit (includes 5e) secured to the suspension means and including a conductive

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material (5e); and a slider scale package including the slider/magnetic recording head, a plurality of interconnect pads (at least two of 5c24 and 5c25, for instance) disposed at the back side of the slider/magnetic recording head (as shown in FIGS. 6-7, for instance), and a flex circuit (5b) attached to the back side of the slider/magnetic recording head (as shown in FIG. 5, for instance) and electrically connected to the plurality of interconnect pads, wherein the plurality of interconnect pads are electrically connected to the conductive material of the head interconnect circuit (i.e., via flex circuit 5b, for instance) [as per claim 28]; wherein the flex circuit includes a first end (adjacent at least two of 5b24 and 5b25), a second end (adjacent at least two of 5b4, 5b5 and 5b6), and a conductive material (5b26) extending from the first end to the second end (lines 20-22 in column 9, for instance) [as per claim 29].

6. Claims 2 is rejected under 35 U.S.C. 102(e) as being anticipated by Hanrahan et al. (US 5,896,248).

Hanrahan teaches a slider scale package assembly (FIGS. 1-2, for instance) comprising a slider/MR head (100) having opposing front and back sides (as shown in FIG. 2, for instance), the front side defining an air bearing surface (as shown in FIG. 1, for instance); at least one interconnect pad (at least one of 302, 304, 306 and 308, for instance) disposed at the back side of the slider/MR head (as shown in FIG. 3, for instance); and a flex circuit (102) attached to the back side of the slider/MR head (as shown in FIGS. 1-2 and 4, for instance) in contact with the at least one interconnect pad

(as shown in FIGS. 2 and 4, for instance) which turns the slider/MR head into the slider scale package assembly.

Allowable Subject Matter

7. Claims 8-11 and 16-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 15 December 2003 have been fully considered but they are not persuasive.

The applicant argues that "Zarouri fails to disclose at least one interconnect pad disposed at the back of the slider 2, which back side is opposing an air bearing surface of the slider." This argument, however, is not found to be persuasive as Zarouri does disclose at least one interconnect pad (at least one 9, as shown in FIG. 1F, for instance) disposed at the back of a slider (2, as shown in FIG. 1F, for instance), which back side is opposing an air bearing surface of the slider (as shown in FIGS. 1E and 1F, for instance) (emphasis added). Note that the term "at" is defined by "Webster's Ninth New Collegiate Dictionary" (1985) to mean the following: "used as a function word to indicate presence or occurrence in, on, or near" (emphasis added). While the at least one interconnect pad of Zarouri may fail to be "in" or "on" the back of the slider, it certainly is

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"near" the back of the slider and therefore meets the claimed limitation of being "at the back of the slider."

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

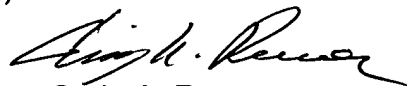
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (703) 308-0559. The examiner can normally be reached on Tuesday-Friday 7:30 AM - 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Craig A. Renner
Primary Examiner
Art Unit 2652

CAR